217/782-2113

CONSTRUCTION PERMIT - NSPS SOURCE

PERMITTEE

Mitsubishi Motors North America, Inc. - Manufacturing Division
Attn: Brian Linne
100 North Mitsubishi Motorway
Normal, Illinois 61761-8099

Application No.: 02110001 I.D. No.: 113813AAE
Applicant's Designation: Date Received: November 1, 2002
Subject: Plant Expansion
Date Issued: March 24, 2003
Location: US Route 150 (Mitsubishi Motorway), Normal

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an expansion to the existing automobile plant consisting of modifications to body stamping; the paint shop; trim chassis, and final assembly processes; plastic fascia processes; including installation of three new carbon adsorption/afterburner control systems for VOM emissions from principle coating operations, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This permit authorizes an expansion of the plant to allow production of 350,000 vehicles per year, accompanied by improvements in the VOM control measures, including installation of the three new VOM control systems that substantially reduce the average VOM emissions per vehicle. The source has addressed the applicability and compliance of 40 CFR 52.21, Prevention of Significant Deterioration (PSD) to the expansion of the plant (See Table 4). The limits established by this permit are intended to ensure that the modification addressed in this construction permit does not constitute a major modification pursuant to these rules.

b. i. This permit does not relax the determination of Best Available Control Technology (BACT) previously made for the plant under the PSD rules, which determination sets limitations and requirements that are independent of the number of vehicles produced.

ii. In particular, for purpose of BACT, the electrodeposition prime coat (EPC), guide coat and topcoat operations shall comply with the numerical emission limits of the NSPS listed in Condition 2 based on the real or actual transfer efficiency achieved for such operation.

iii. Procedures approved by the Illinois EPA shall be used for all measurements of actual transfer efficiency pursuant to this permit. The procedures, developed from Sections 18 and 20 of

USEPA's "Protocol For Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," which have been approved by the Illinois EPA, shall be used unless new or revised procedures are approved.

2. Each prime coat operation, each guide coat operation and each topcoat operation is subject to an NSPS, 40 CFR 60 Subpart MM, for Automobile and Light Duty Truck Surface Coating Operations. The Permittee shall comply with the specific standards, pursuant to 40 CFR 60.392, for volatile organic compounds (VOC) as follows:

   a. For the electrodeposition prime coat (EPC) operation (Note: R_T is the solids turnover ratio as defined by 40 CFR 60.391 and 60.393(c)(1)(i)(E)):

      i. 0.17 kilogram of VOC per liter of applied coating solids when R_T is 0.16 or greater.

      ii. 0.17 x 350(0.16 - R_T) kilograms of VOC per liter of applied coating solids when R_T is greater than or equal to 0.040 and less than 0.160.

      iii. When R_T is less than 0.040, there is no emission limit.

   b. 1.40 kilograms of VOC per liter of applied coating solids from the guide coat operation.

   c. 1.47 kilograms of VOC per liter of applied coating solids from the topcoat operation.

3a. The coating lines are subject to 35 IAC 212.321(a), which provides that the Permittee shall not cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].

b. Application of various solvents used during the installation of car parts, checking and fueling of vehicles, application of various solvents used during stamping of metal parts, solvent purge and recovery system and clean-up activities, and solvent wiping are subject to 35 IAC 215.301: Use of Organic Material, which provides that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission source, except as provided by the following exception: If no odor nuisance exists the limitation of 35 IAC 215: Subpart K shall apply only to photochemically reactive material [35 IAC 215.301].

c. The ovens associated with the guide coat process, plastic parts process, prime coat, topcoat, undercoat/seal/SCR process, boiler No. 1, and boiler No. 2 are subject to 35 IAC 216.121: Fuel Combustion Emission Sources, which provides that no person shall cause or allow

the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air.

4a. Hourly particulate matter emissions from any individual item of equipment or operation, excluding any emissions attributable to fuel combustion, shall not exceed the numerical limits specified by Table 1.

b. Organic material emissions in a normal working day of any individual item of equipment or operation listed in Table 1, excluding any emissions attributable to fuel combustion, shall not exceed the numerical limits specified in Table 1. For purposes of this Condition, a normal working day is two 8-hour shifts, producing a maximum of 1,177 automobiles. Compliance with limits may be determined from a combination of daily production data and monthly material usage data.

c. Annual emissions of organic material from any individual coating operation or other process operation, excluding any emissions attributable to fuel combustion, shall not exceed the amount specified in Table 2.

d. Hourly and annual emissions from fuel combustion emission units shall not exceed the amount specified in Table 3.

5a. The maximum production of vehicles at the source shall not exceed 350,000 per year. Compliance with the annual limit shall be determined from a running total of 12 months of data.

b. The maximum firing rate of equipment shall not exceed the limits listed in Table 1.

c. Automobile body painting shall be scheduled to minimize color changes and associated purging of coating applicators, consistent with other constraints on scheduling.

d. High pressure water sprays or other processes not resulting in organic material emissions shall be used for cleaning conveyor lines.

e. Natural gas shall be the only fuel used in the ovens and afterburners.

f. At all times, the Permittee shall also, to the extent practicable, maintain and operate the automobile body coating operations, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

6a. The organic material emissions from the following portions of the coating operations shall be controlled by carbon adsorption/afterburner systems, with at least 90% control efficiency. These systems shall be operated whenever the principle emission units (see table below for principle emission units) are operated and shall not be taken out of service pursuant to 35 IAC 215.106.

Emission Unit	Control Device
Plastic Parts Primer - Robot Primer - Manual Basecoat - Robot Stage 1 Basecoat - Robot Stage 2 Oven	Plastic Parts (Fascia) Carbon Adsorption/Afterburner
Top Coat #1 Basecoat - Exterior Stage 1 Basecoat - Exterior Stage 2 Oven EPC E-Coat Tank Oven	Top Coat #1 Carbon Adsorption/Afterburner
Top Coat #2 Basecoat - Exterior Stage 1 Basecoat - Exterior Stage 2 Oven Guide Coat MB / Robot Stage 1 Robot Stage 2	Top Coat #2 Carbon Adsorption/Afterburner

b. The combustion chamber of the afterburner portion of each carbon adsorption/afterburner system shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400 degrees F in the absence of a compliance test. This temperature shall be maintained during operation.

c. The particulate matter emissions from coating overspray shall be controlled by waterwalls, filters or other devices with at least 98% efficiency, except in the Touch Up Booths where at least 75% efficiency shall be achieved.

7a. The Permittee shall comply with the applicable performance test requirements specified in 40 CFR 60.393, which requires a monthly performance test according to the procedures in 40 CFR 60.393.

b. i. Within 60 days after achieving the maximum production rate at which the expanded plant will be operated, but not later than 180 days after initial startup of the expanded plant, the Permittee shall conduct performance test(s) for coating operations subject to the NSPS and furnish the Illinois EPA a written report of the results of such performance test(s) [40 CFR 60.8(a)].

ii. A. These tests shall be designed to measure the uncontrolled emissions from the following processes: Topcoat 1 and 2 (Basecoat manual and clearcoat manual interior); and

B. These tests shall be designed to measure the control efficiency of each new carbon adsorption/afterburner system.

c. The reference methods in Appendix A to 40 CFR Part 60, except as provided in 40 CFR 60.8 shall be used to conduct performance tests [40 CFR 60.396(a)].

i. Method 24 or an equivalent or alternative method approved by the Illinois EPA shall be used for the determination of the data used in the calculation of the VOC content of the coatings used for each coating line. Manufacturers' formulation data is approved by the Illinois EPA as an alternative method to Method 24. In the event of dispute, Method 24 shall be the referee method.

ii. Method 25 or an equivalent or alternative method approved by the Illinois EPA shall be used for the determination of the VOC concentration in the effluent gas entering and leaving the emission control device for each stack equipped with an emission control device and in the effluent gas leaving each stack not equipped with a control device.

iii. The following methods shall be used to determine the volumetric flow rate in the effluent gas in a stack:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 3 for gas analysis; and

D. Method 4 for stack gas moisture.

d. For Method 24, the coating sample must be a 1-liter sample taken in a 1-liter container [40 CFR 60.396(b)].

e. For Method 25, the sampling time for each of three runs must be at least one hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Illinois EPA. The Illinois EPA will approve the sampling of representative stacks on a case-by-case basis if the Permittee can demonstrate to the satisfaction of the Illinois EPA that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks [40 CFR 60.396(c)].

8a. Within 60 days after achieving the maximum production rate at which the expanded plant will be operated, but not later than 180 days after initial startup of the expanded plant, the Permittee shall conduct performance test(s) for the Plastic Parts (Fascia) Carbon Adsorption/Afterburner system and furnish the Illinois EPA a written report of the results of such performance test(s). This test shall be designed to measure the control efficiency of the carbon adsorption/afterburner system.

b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Volatile Organic Material	USEPA Method 25, 25A if outlet VOM cont. < 50 ppmv as C Non CH_4

9a. For the EPC, guide coat and topcoat operations:

i. The Permittee shall comply with the applicable monitoring of emissions and operations specified in 40 CFR 60.394. Specifically, the Permittee shall install, calibrate, maintain, and operate temperature measurement devices for the afterburner portion of each carbon adsorption/afterburner system as prescribed below:

A. A temperature measurement device shall be installed in the firebox of each afterburner.

B. Each temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ±0.75 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C.

C. Each temperature measurement device shall be equipped with a recording device so that a permanent record is produced.

ii. For the carbon adsorption portion of each such system, the Permittee shall install, calibrate, maintain, according to manufacturer's instructions, a breakthrough monitor to continuously monitor and indicate the hydrocarbon concentration of the gas stream exiting the carbon adsorption beds.

b. For the plastic parts (fascia) operations, the Permittee shall comply with the afterburner requirements specified in Condition 9(a)(i)(A), (B), and (C). For the carbon adsorption portion of the carbon adsorption/afterburner system, the Permittee shall comply with the carbon adsorption requirements specified in Condition 9(a)(ii).

10a. The Permittee shall comply with the applicable reporting and recordkeeping requirements specified in 40 CFR 60.395. Specifically:

i. The Permittee shall include the following additional data in the control device initial performance test required by 40 CFR 60.8(a) or subsequent performance tests at which destruction efficiency is determined: the combustion temperature, the total mass of VOC per volume of applied coating solids before and after

the afterburner, capture efficiency, the destruction efficiency of the afterburner used to attain compliance with the applicable emission limit specified in 40 CFR 60.392 and a description of the method used to establish the fraction of VOC captured and sent to the control device.

ii. The Permittee shall identify, record, and submit a written report to the Illinois EPA every calendar quarter of each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under 40 CFR 60.392. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the Illinois EPA semiannually. Where compliance is achieved through the use of a capture system and control device, the volume-weighted average after the control device should be reported.

iii. The Permittee shall continuously record the afterburner combustion temperature during coating operations. The Permittee shall submit a written report at the frequency specified in 40 CFR 60.7(c) and as defined below:

A. Every three-hour period shall be reported during which the average temperature measured is more than 28°C less than the average temperature during the most recent control device performance test at which the destruction efficiency was determined as specified under 40 CFR 60.393.

B. If no such periods occur, the Permittee shall submit a negative report.

iv. The Permittee shall notify the Illinois EPA 30 days in advance of any test by Method 25.

b. For the carbon adsorption units, if a breakthrough level of 10 ppm is exceeded for a period longer than 15 minutes, the Permittee shall report this information to the Illinois EPA with the deviation report required by Condition 10(a)(iii).

11. The Permittee shall maintain the following records:

a. Records of the maximum rated firing rate of each oven, boiler and afterburner (mmBtu/hr);

b. A record of the number of vehicles produced (vehicles/month and vehicles/year);

c. A "Maintenance Log" for each carbon adsorption/afterburner system. This log shall contain as a minimum the time and date of any of preventative maintenance, planned or unplanned repairs involving the systems.

d. A log book for the operation, maintenance and repair of the monitoring systems required by Condition 9.

e. i. A record of the VOM emissions from the coating lines (tons/month and tons/year);

ii. A record of the VOM emissions from other emission units (tons/month and tons/year); and

iii. A record of the PM, SO_2, NO_x, CO, and VOM emissions attributable to the combustion of natural gas from the ovens, boilers and afterburners (tons/month and tons/year).

12. The Permittee shall notify the Illinois EPA of any violation of the limitations of this permit by sending a copy of any record showing a violation to the Illinois EPA within 30 days following the occurrence of the violation.

13. General requirements of the CAAPP permit with respect to retention and availability of records and submission of reports shall apply to the recordkeeping and reporting requirements of this permit.

14. The expanded plant is allowed to operate for two years after initial startup under this construction permit.

If you have any questions on this permit, please contact Jason Schnepp at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:psj

cc: Region 3
Compliance and Enforcement Section
Lotus Notes

Mitsubishi Motors North America, Inc. - Manufacturing Division
I.D. No.: 113813AAE
Appl. No.: 02110001
Date: March 24, 2003

TABLE 1: LIMITATIONS FOR EQUIPMENT AND OPERATIONS

Area/Operation or Process Equipment	PM Emissions (Lb/Hr)	VOM Emissions (Lb/Day)	Total Heat Input (Million Btu/Hr)
Press-Weld Shop:			
Misc. Coatings/Solvent	Neg.[1]	340	--[2]
Body Paint Shop:			
Prime	Neg.	86	22.70
Undercoat/Seal/SCR	Neg.	900	3.50
Guide (Second) Coat	0.64	1,467.90	61.64
Solvent Wiping	--	360	--
Top Coat and Touch up	5.48	4,118.13	320.84[3]
Assembly Line:			
Glass Installation	--	155	--
Wiping Solvent	--	0.00	--
Other[4]	--	60	--
Check & Fueling Area:			
Gasoline Tanks & Veh. Fueling	--	12	--
Underfloor Rustproof	--	0.00	--
Engine Wax	--	0.00	--
Transit Wax	--	0.00	--
Plastic Parts Paint Shop:			21.10[5]
Primer		229.04	
Conductive Primer	1.11		--
Adhesion Promoter	0.56		--
Mold Cleaner/Pretreat	--		--
Color/Clear Coat	2.77	1,156.25	--
Solvent Purge & Clean Up:			
Purge Solvent	--	1,500	--
Cold Cleaner	--	535 lb/month	--
Other Solvent Use	--	0.00	--
Cleaning Agents	--	3,438 lb/week	--

[1] "Neg." designates negligible emissions, that is less than 100 lbs/year.
[2] "--" designates limit not applicable as relevant type of operation not present.
[3] Includes 2 new 28 mmBtu/hr RTO's.
[4] Other includes all coatings, adhesives, primers, etc., other than materials associated with installation of glass and solvents used for wiping automobile surfaces, e.g. wiping prior to application of a bodyside molding adhesive.
[5] Total heat input to the Plastic Parts Shop is limited to 21.2 million Btu/hr.

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TABLE 2: ANNUAL VOLATILE ORGANIC MATERIAL LIMITS
FOR COATING AND PROCESS OPERATIONS (TON/YEAR)

Press-Weld Shop:	
Misc. Coatings/Solvent	42.07
Body Paint Shop:	
Prime Coat	2.56
Undercoat/Seal/SCR	59.18
Guide (Second) Coat	99.14
Solvent Wiping	21.43
Top Coat	385.01
Clearcoat	
Basecoat	
Wheelhouse Blackout	
Misc. Cleaning/Repair	
Assembly Line Solvents and Misc.:	
Glass Installation	17.22
Wiping Solvent	0.00
Other	2.39
Check and Fueling	
Underfloor Coating	0.00
Engine Wax	0.00
Gasoline Tanks & Vehicle Fueling	0.44
Transit Wax	0.00
Plastic Parts Paint Shop:	
Primer	23.77
Mold Cleaner/Pretreat	
Conductive Primer	
Adhesion Promoter	
Color and Clear Coat	112.51
Clearcoat	
Basecoat	
Solvent Purge and Clean Up:	
Purge Solvent	134.09
Cold Cleaner	0.52
Other Solvent	0.00
Cleaning Agent	96.75
TOTAL:	997.08

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TABLE 3: HOURLY AND ANNUAL EMISSION LIMITS
FOR FUEL COMBUSTION

Item of Equipment	Firing Rate (mmBtu/hr)	PM Emissions (Lb/Hr)	PM Emissions (T/Yr)	SO_2 Emissions (Lb/Hr)	SO_2 Emissions (T/Yr)	NO_x Emissions (Lb/Hr)	NO_x Emissions (T/Yr)	CO Emissions (Lb/Hr)	CO Emissions (T/Yr)	VOM Emissions (Lb/Hr)	VOM Emissions (T/Yr)
Undercoat/ Seal/SCR	3.50	0.03	0.08	0.01	0.01	0.35	1.05	0.30	0.89	0.02	0.06
Plastic Parts	21.10	0.16	0.49	0.02	0.04	2.11	6.33	1.78	5.32	0.12	0.35
Top Coat	320.80	2.44	7.32	0.20	0.60	32.09	96.26	26.96	80.86	1.77	5.30
Prime Coat	22.70	0.18	0.52	0.02	0.05	2.27	6.81	1.91	5.73	0.13	0.38
Guide Coat	61.64	0.47	1.41	0.04	0.12	6.17	18.50	5.18	15.54	0.34	1.02
Boilers 1, 2	25.10	0.20	0.84	0.02	0.07	2.51	11.00	2.11	9.24	0.14	0.61
TOTALS:	166.12	3.48	10.66	0.31	0.89	45.5	139.95	38.24	117.58	2.52	7.72

The fuel combustion emission calculations are based on USEPA’s AP-42 emission factors (Section 1.4: Natural Gas Combustion, 1998).

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TABLE 4: NETTING ANALYSIS

Pollutant	Actual Emissions[1]	Potential Emissions	Net Emission Increase
VOM	971.90[2]	1005.53[3]	33.63
PM_{10}	9.62	23.65	14.03
NO_x	126.58	139.95	13.37
CO	106.33	117.58	11.25
SO_2	0.76	0.89	0.13

[1] Actual emissions are calculated as the average of the emissions from calendar years 1999 and 2000.

[2] Includes 965.44 tons from process emissions other than combustion emissions and 6.46 tons attributable to the combustion of natural gas.

[3] Includes 997.81 tons from process emissions other than combustion emissions and 7.72 tons attributable to the combustion of natural gas.

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